Remarks:

Claims 1-40 were pending in the application. Claims 1-9 and 23-34 were canceled from consideration, by way of a Response to a Restriction Requirement, mailed December 5, 2005. With submission of this Response and amendments, claims 10-22, 35-37, and 39-41 will remain pending.

An objection is made to FIGS. 3A and 3B for not being designated by a legend as "prior art". Corrected drawings in compliance with 37 C.F.R. 1.121(d) are submitted herewith. Withdrawal of the objection is respectfully requested.

An objection is also made to the title of the invention as not being descriptive. A new title and replacement page are submitted herewith. The proposed new title, "A Resistivity Logging Tool and a Method for Building the Resistivity Logging Tool" is consistent with the subject matter of the claims. Withdrawal of the objection is respectfully requested.

Claims 10-15, 17-19, 21, 22, 35, 36, and 39-41 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,359,324 (Clark '324) in view of U.S. Patent No. 4,785,247 (Meador '247). Claims 16 and 37 are rejected under 35 U.S.C. §103(a) as being unpatentable over Clark '324 in view of Meador '247 and in further view of U.S. Patent No. 6,100,696 (Sinclair '696). Claim 20 is rejected under 35 U.S.C. §103(a) as being unpatentable over Clark '324 in view of Meador '247, and in further view of U.S. Patent No. 5,530,358 (Wisler '358). Applicants respectfully traverse each of these §103(a) rejections.

Amended Claim 10 recites a resistivity logging tool having, among other elements, the following:

> a shield disposed on and about the tubular to cover the recess and the lateral resistivity sensor; and
>
> an insulating mechanism including a circumferential gap, the circumferential gap extending continuously about the tubular to prevent electric current flow in the shield in a direction parallel to the longitudinal axis of the tubular near the lateral resistivity sensor.

Applicants submit that the combination of Clark '324 and Meador '247 does not teach or suggest (a) a shield nor (b) an insulating mechanism including a circumferential gap, as recited in claim 10.

The Office Action refers to the protective ring 213 in FIG. 2 of Clark '324 as providing a shield disposed on a tubular. This ring is not a shield, however, as required by claim 10. Neither FIG. 2 nor the accompanying description reveals much about the protective ring 213, but a shield used in conjunction with a sensor is different structurally and functionally from a ring. Given that the use of "shields" was known at the time, Applicants believe that one skilled in this art would have identified the "ring 213" as a "shield" if it were so.

Nevertheless, the ring 213 is not disposed on the tubular to cover the sensor, as required by the claim. To further highlight this distinction, Applicants has amended claim 10 to elaborate that the shield is "disposed on and about the tubular to cover the recess and the lateral resistivity sensor", as shown and described in the Specification. The open-ended ring 213 in FIG. 2 may be disposed around insulating material 211 (to secure the antenna in place) and thus, on the drill collar 200, but it is not disposed about a tubular to cover any recess or sensor.

The Office Action further cites a "gap" between the protective ring 213 and the lock nuts 221 of the drill collar in FIG. 2 as providing the "circumferential gap" of claim 10. There is, indeed, a space between the lock nuts 221 and protective ring 213 in FIG. 2. It appears that such a space between the protective ring 213 and the lock nuts 221 must be provided to allow for operation of the lock nuts 221 and for securing the stabilizer above it. The reference does not teach or suggest, however, that this space prevents electric current flow in the shield in a direction as specified in claim 10. There is no discussion, in fact, of electric current flow being generated in the protective ring 213 and how this space affects or alters the electric current flow. This space is as much a "circumferential gap" as the space between any two elements disposed about the tubular that are not in mutual contact. Such a space does not amount to, structurally or functionally, a circumferential gap as recited in claim 10.

Accordingly, there is no shield or gap taught or suggested in Clark '324, that could be combined with any recess taught by Meador '247, to produce the resistivity logging tool of claims 10-15, 17-19, 21, 22, 35, 36, and 39-41. The use of these references as basis for a §103 obviousness rejection is, therefore, improper.

Furthermore, Applicants specifically note pending claim 17, which recites that the circumferential gap is a continuously extending gap incorporated in the shield. Even if the protective ring 213 could be construed as a "shield" and the space between the protective ring 213 and the lock nuts 221 as a "circumferential gap", Clark '324 still fails to teach or suggest the further limitation recited in claim 17. Simply, the space between the protective ring 213 and the lock nuts 221 is not incorporated in the shield. The space is merely a result of locating two separate elements of the drill collar 200 on the tubular and it is clearly not part of either element. To equate the space between the ring 213 and lock nuts 22 to the circumferential gap of claim 17, for purposes of a §103(a) rejection, ignores clear and specific structural limitations in claim 17, which is improper. Accordingly, claim 17 contains patentable subject matter.

Each of claims 16 and 20 depends from claim 10 and is, therefore, patentable for the same reasons as discussed above in respect to claim 1.

As presently amended, claim 35 recites a method of building a resistivity tool including the step of "positioning a shield assembly on or about the tubular above and below the recess to cover the lateral resistivity sensor." Claim 35 also recites the step of "extending a circumferential gap continuously about the tubular..., thereby preventing electric current to flow along the shield in a direction parallel to the longitudinal axis...". It follows from the previous discussion that no such shield is positioned to cover the recess and no such circumferential gap is extended in Clark '324. Independent claim 35 and dependent claim 36-37 and 39-40 are, therefore, also patentable over the cited references.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance.

No fee is believed to be due at this time. If the appropriate Petition for an Extension of Time is not attached hereto (or any other Petition required of the application), this statement shall serve as Applicants' Petition to the U.S.P.T.O. The Commissioner is hereby authorized to charge any additional fees or credit any overpayments related to this response to Deposit Account No. **190610 (24.0808US).**

Appl. No. 10/708,926
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The undersigned is available for consultation at any time, if the Examiner believes such consultation may expedite the resolution of any issues.

Respectfully submitted,

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